Technologies for Industry 4.0
Blockchain is here.

March 2019

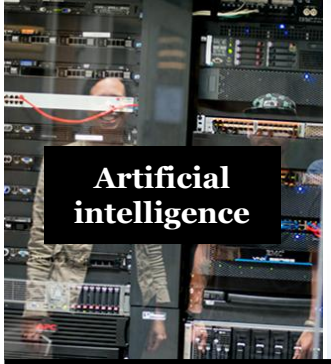
The Essential Eight: Global Blockchain Survey

pwc

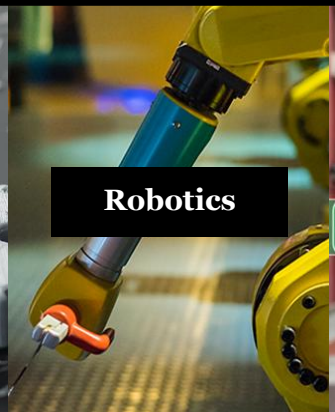
The

Essential Eight

emerging technologies every organization should consider right now



Zero in on the eight that are having the biggest business impact right now.



Blockchain is changing **everything**.

In 2030, blockchain could generate **$3 trillion** a year in business value...

GARTNER

...and **10% to 20%** of the global economic infrastructure could be running on blockchain-based systems.

PWC

84% of executives have at least some blockchain involvement — with **15%** having a live project.

PWC 2018 GLOBAL BLOCKCHAIN SURVEY

… but what is blockchain?

A **blockchain** is a distributed,
tamper proof digital ledger.

Transactions are verified through ***consensus*** — participants confirm changes with one another—and ***cryptography*** ensures integrity and security. This eliminates the need for a central certifying authority.

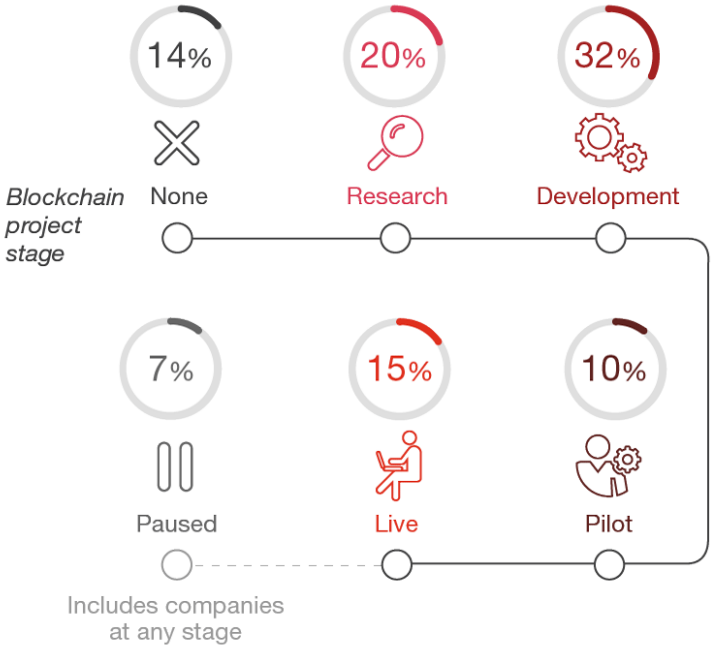
Blockchain

Blockchain technology is a distributed shared ledger where transactions are recorded and confirmed without the need for a central authority.

In practice:

- supply chain traceability
- financial processes
- identity verification
- digital currencies

How far along are companies with blockchain?



Note: Numbers are rounded (sum does not equal 100 due to rounding).
Source: PwC Global Blockchain Survey, 2018

Four key characteristics set blockchain apart from other technologies.

Distributed ledger

Every participant in the network has simultaneous access to a view of the information

Cryptography

Integrity and security of the information on the blockchain are ensured with cryptographic functions

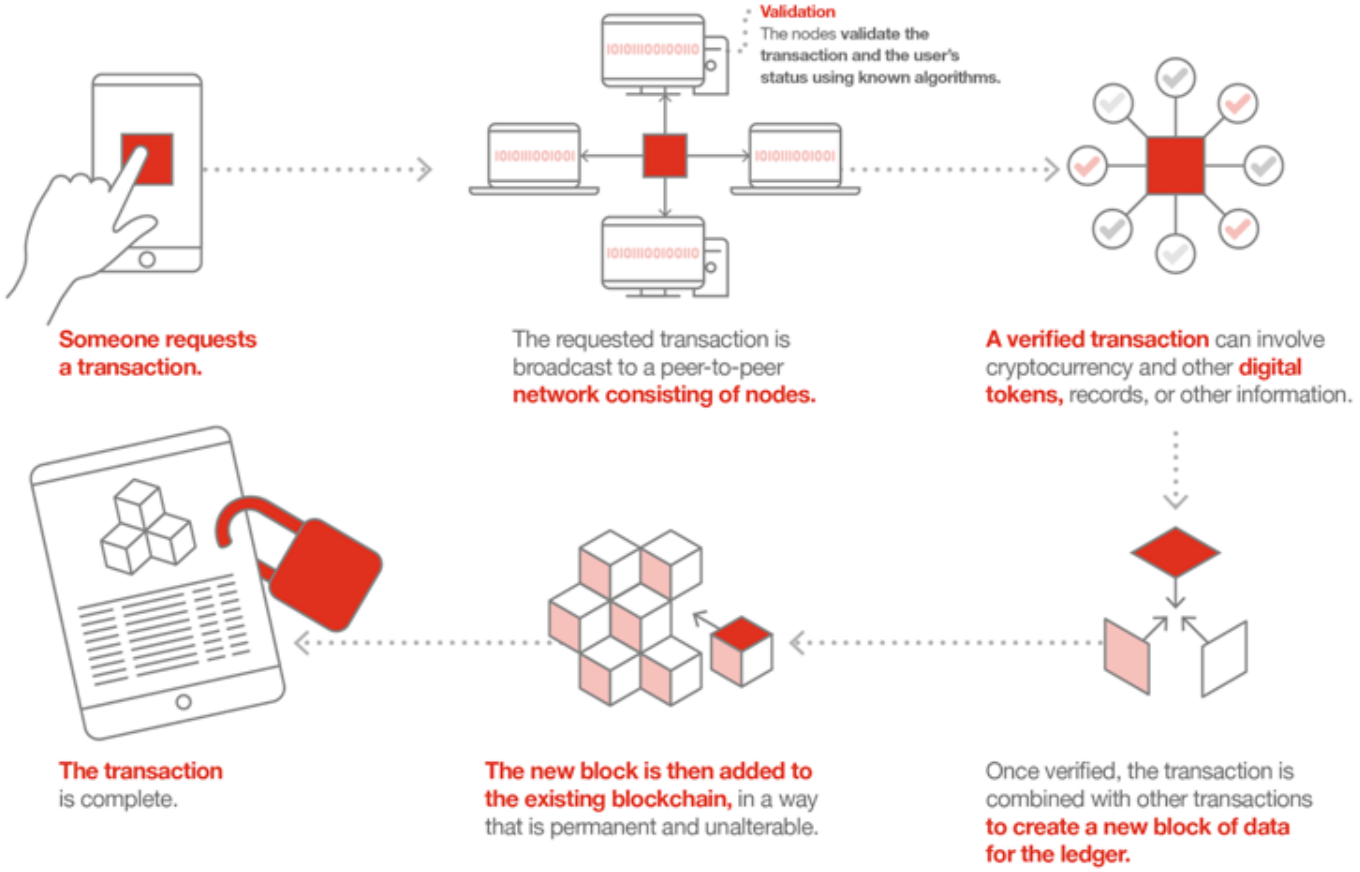
Consensus

Verification is achieved by participants confirming changes with one another, replacing the need for a third party to authorise transactions

Smart contracts

The ability to run additional business logic means that agreement on the expected behavior of financial instruments can be embedded in the blockchain

How blockchain works



Digital tokens: reimaging processes and business models

Digital representations of assets, securities, and currencies, which can be used to fractionalize asset ownership, increase liquidity, and improve transaction speeds among token holders.

Currency tokens
Like Bitcoin and Ether, these are payment consideration similar to traditional fiat currencies.

Utility tokens
Rights to goods or services, such as data storage, advertising rights, or energy propositions.

Commodity tokens
Rights to the value of an underlying commodity, such as oil or coffee beans.

Security tokens
Investment interest in a company, including entitlement to profits or rise in company value.

So what does this mean for business today?

Blockchain impacts every part of the business

Supply chain and logistics

Finance effectiveness

Loyalty programs

Identity management

Digital currencies

Records management

Audit and compliance

Benefits

- Increased transparency and traceability
- Faster transactions
- Elimination of intermediaries
- Lower costs

Barriers

- Regulatory uncertainty
- Complex technology
- Collaboration challenges
- Trust issues

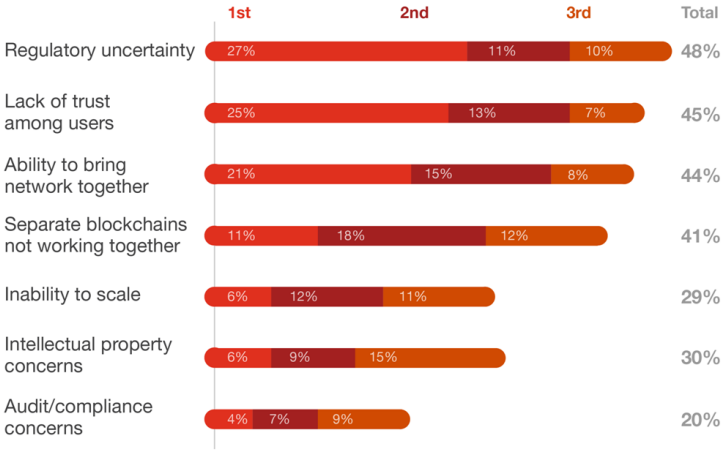
Executives see blockchain's promise, but can they trust it?

Companies must confront blockchain's trust paradox — a technology designed to foster trust is being held back by trust issues:

- Lack of confidence in complex tech
- Limited understanding of blockchain
- Distrust of ecosystem partners
- Discomfort over regulatory uncertainty

The biggest barriers to blockchain adoption

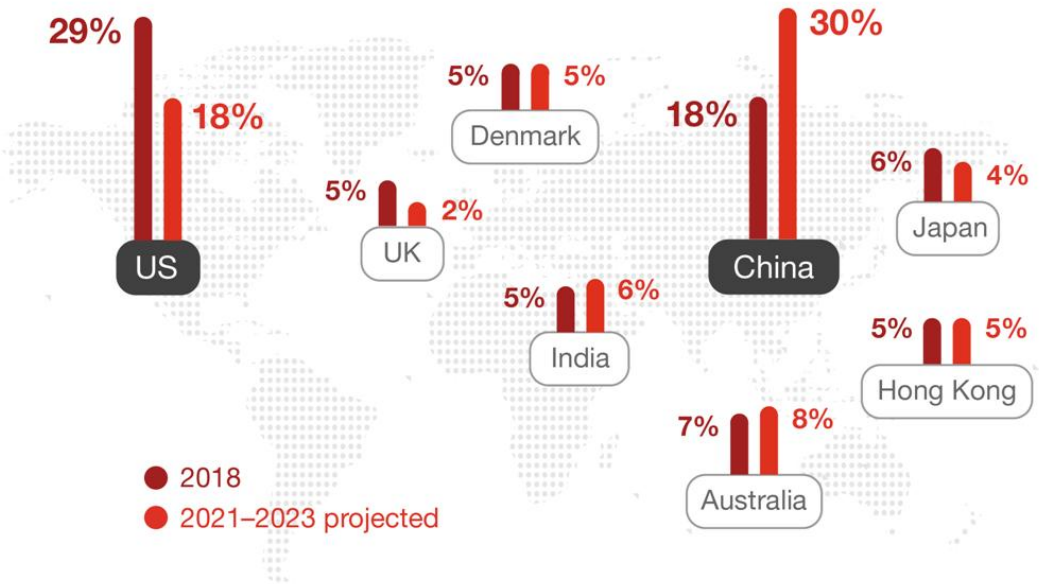
Percentage of respondents ranking top three barriers to blockchain adoption



Note: Base: 600.
Q: Which of the following will be the biggest barriers to blockchain adoption in your industry in the next three to five years?
Source: PwC Global Blockchain survey, 2018

Who's leading in blockchain? US today, but China tomorrow.

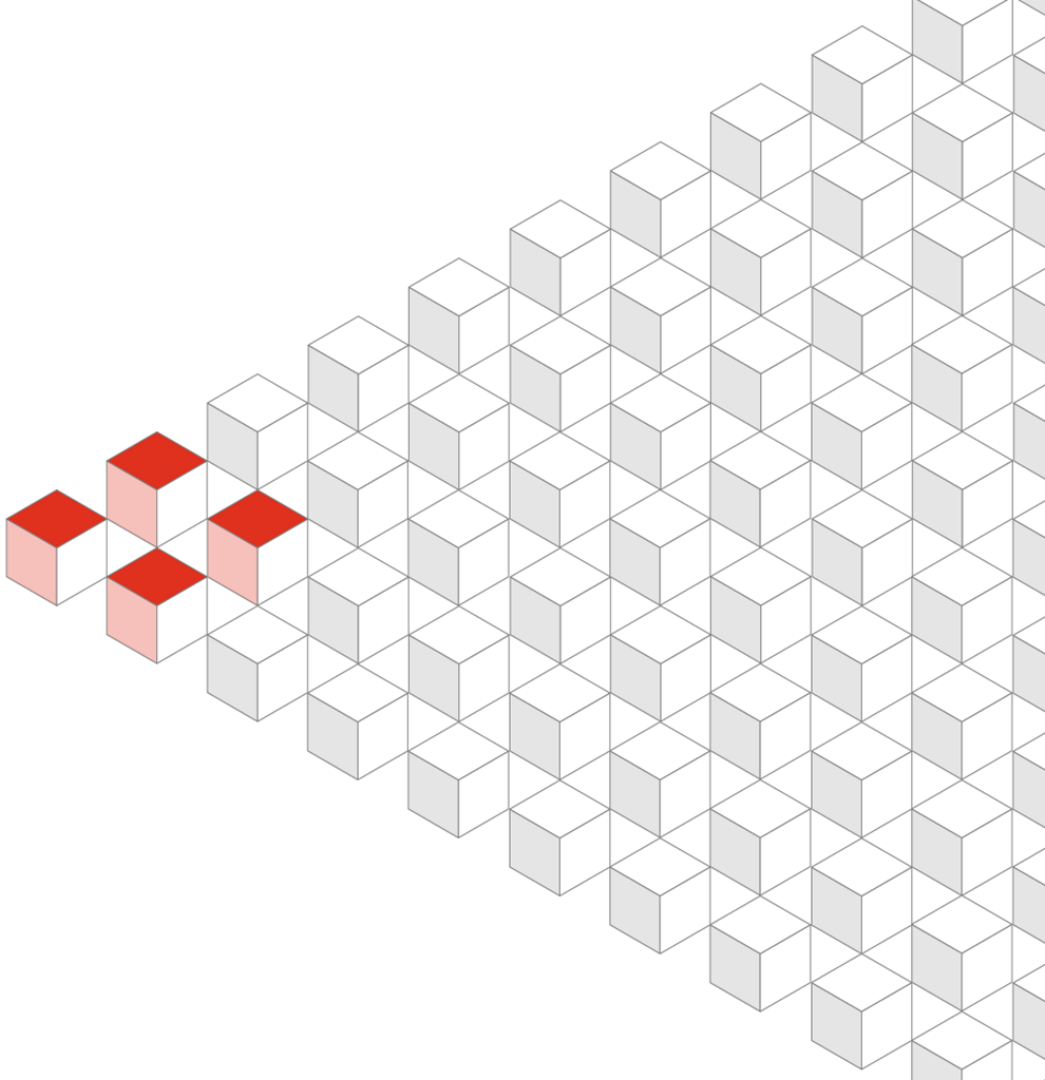
Executives think the US is most advanced today, but in 3 to 5 years China will be.



Note: Base: 600.
Q: Which of these territories are most advanced in developing blockchain projects?
Source: PwC Global Blockchain survey, 2018

4 strategies to navigate the new world

How to overcome blockchain's trust paradox.



1 Make the business case: where and how to start

Commit to new ways of working

Frame the problem and solution

Start small, then scale out

The blockchain checklist: Is the technology right for you?

If your project checks four out of the six boxes, blockchain could be an applicable solution.

Multiple parties **share** data

Multiple parties **update** data

Requirement for verification

Intermediaries add complexity

Interactions are time-sensitive

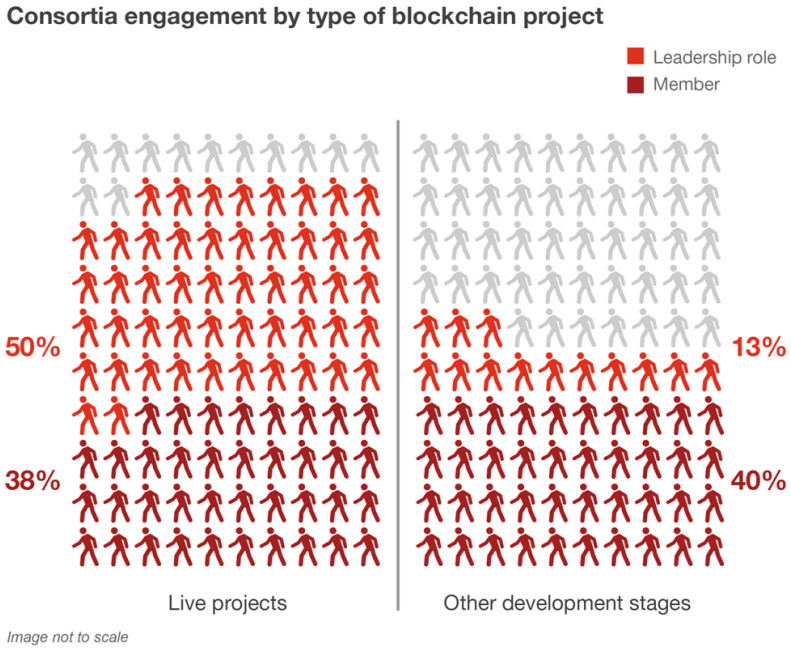
Transactions interact

2 Build an ecosystem: new rules for new relationships

Focus on a cooperative few

Broaden your network

Work across the value chain



Note: Bases: Live, 92; other stages (none, research, pilot, development, paused), 513.
Q: Which of the following best describes your organisation's involvement with a blockchain industry consortium?
Source: PwC Global Blockchain survey, 2018

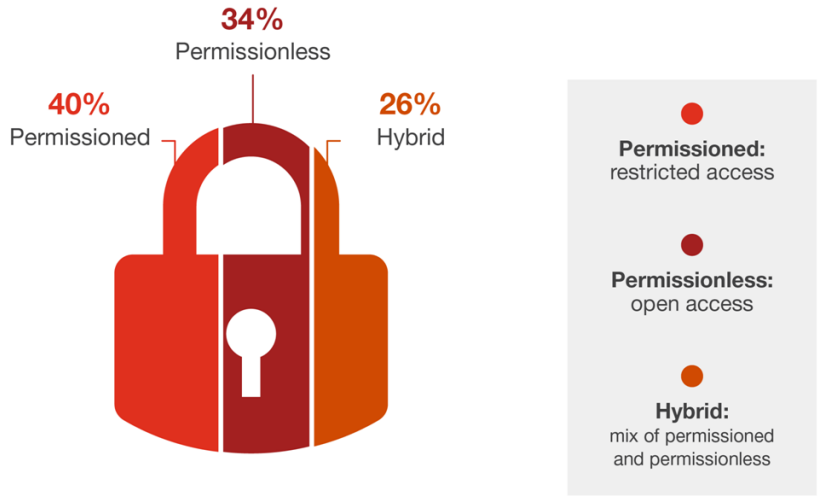
3 Design deliberately: determine rules of engagement

Confront risks early

Consider privacy implications

Invest in data and processes

How respondents are designing their blockchains



Note: Base: 389.
Q: For your organisation's projects, how do you address membership/participation?
Q: For your organisation's projects, how do you address network access?
Source: PwC Global Blockchain survey, 2018

4 Navigate regulatory uncertainty: watch, but don't wait

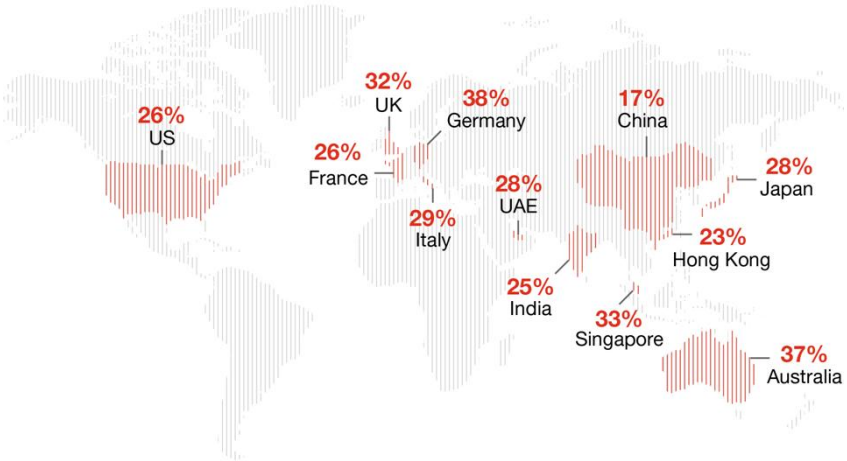
Shape the trusted tech discussion

Monitor evolving regulation

Use existing regulation as a guide

Mapping compliance concerns

Percentage of respondents in territory who report that regulatory uncertainty is the biggest barrier to adoption in the next three to five years



Note: Bases: 37, 30, 30, 41, 42, 57, 32, 144, 31, 51, 31, 54.
Q: Which of the following will be the biggest barriers to blockchain adoption in your industry in the next three to five years? (Rank one)
Source: PwC Global Blockchain survey, 2018

5 Emerging trends: exploit some blockchain attributes

Immutabilty

Integrity

Traceability

Distribution

Decentralization

Realtime backup

Transparency


Blockchain is rewiring commerce.
Whether you lead or follow,
start now.

Thank you

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